

ROCKY FLATS SITE

REGULATORY CONTACT RECORD

Purpose: Discussion and Approval of Excavation Greater Than 3 Feet Below Grade to Breach Dams A-1, A-2, B-1, B-2, B-3 and B-4.

Contact Record Approval Date: June 18, 2008

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Regulatory Contact(s) / Affiliation(s): Carl Spreng, CDPHE

Discussion: Prior to completing the cleanup and closure of Rocky Flats, DOE issued the October 2004, *Pond and Land Reconfiguration Environmental Assessment Comment Response, and Finding of No Significant Impact (DOE/EA-1492)*, in which it proposed to breach Dams A-1 and A-2 (located in North Walnut Creek) and Dams B-1, B-2, B-3 and B-4 (located in South Walnut Creek) (DOE 2004). DOE proposed the dam breach to reduce the active management and maintenance needs by constructing “notches” in the dams, which would allow water to flow through the notches with lower upstream pool levels. Now that Rocky Flats has been cleaned up, has undergone closure, and is in the long term surveillance and maintenance phase, DOE intends to implement the proposed action in the Environmental Assessment. This work will involve excavation and heavy construction activities.

On March 6, 2008 and May 6, 2008, DOE, CDPHE and Stoller staff consulted regarding the proposed dam breaching. The attached Figures 1 and 2 show the footprints of the work area. Figure 3 shows the typical notch configuration to breach the dams. An associated stop log structure in each notch is designed to allow leakage during moderate flows and overtopping during high flows, thereby attenuating flow rates but not retaining significant quantities of water. Figure 3 also shows the typical stop log structure location in each notch. Figure 4 shows Dam C-1, after breaching in a similar manner was completed in 2005.

The excavation and construction involves actions prohibited by the institutional controls (ICs) incorporated in the Rocky Flats Legacy Management Agreement (RFLMA), and thus requires regulatory approval. CDPHE approval for this work is requested before final design and procurement activities proceed. The final design for procurement must be completed in June 2008 so that the construction work may begin in late September 2008. Construction is expected to take 3 to 4 months to complete.

One RFLMA well and one RFLMA surface-water sampling point are located in the construction footprint and will need to be replaced and possibly relocated. Activities that may damage or impair the proper functioning of engineered components, such as monitoring wells are prohibited by ICs (RFLMA, Attachment 2, Table 4, Control 7). The objective of IC 7 regarding prohibition of activities that may damage or impair water monitoring components is to ensure that required monitoring information is obtained and evaluated in accordance with RFLMA requirements for timely reporting and action determinations, if triggered by monitoring results.

Table 1 shows the RFLMA monitoring locations that will be removed or otherwise impaired during construction. As the design progresses, removed sampling points will be replaced at locations to be determined after consultation with CDPHE. Alternative temporary monitoring locations may be established based on the outcome of consultation. Routinely scheduled samples will be collected and analyzed shortly before any monitoring point is removed.

Table 1. RFLMA Monitoring Locations Expected to be Impacted During Construction.

ID	Location	Purpose	Monitoring Frequency	Analytes
TH046992	South Walnut Creek between Ponds B-3 and B-4	Sentinel well-downgradient of East Trenches Plume Treatment System (ETPTS) intercept trench	Semiannual	VOCs
POM2	South Walnut Creek at Pond B-4 outlet	Surface-water performance monitoring for ETPTS	Semiannual	VOCs

Furthermore, the excavation work will exceed the 3-foot-depth limit prohibited by ICs (RFLMA, Attachment 2, Table 4, Control 2) and thus requires pre-approved procedures.

The objective of IC 2 regarding excavations with a depth that exceeds 3 feet is to maintain the current depth to subsurface contamination or contaminated structures. This IC also results in achieving compliance with the CDPHE risk management policy of ensuring that residual risks to the site user are at or below 1×10^{-6} . As discussed further, below, the proposed work achieves the risk management policy goal.

The excavated soils will be placed in the spillways adjacent to each dam. Some excavated soils from within the notched area could also be used to provide materials for revegetation and minor recontouring activities in the Central Operable Unit to maintain/improve erosion controls.

The fill placement activity will be in conformance with the applicable institutional controls, and the final elevation after fill placement and reseeded is expected to be slightly above the existing elevations. Erosion controls for the excavation, construction, and fill activities will be employed in accordance with the *Erosion Control Plan for Rocky Flats Property Central Operable Unit*, DOE-LM/1497-2007, July 2007.

CDPHE has requested that the following information be included in contact records for soil excavation related to IC 2 that will not return soil to the preexisting grade:

1 - Provide information about any remaining subsurface structures in the vicinity so that the minimum cover assumption will not be violated (or state that there are none if that is the case).

There are no subsurface building or tunnel structures in the vicinity of the dams. However, outlet works, pipes, valves, drop structures, spillways, and miscellaneous components are integral to the dam structures. Table 2 lists the items that are in or adjacent to the notch areas associated with each dam.

The construction approach will be to remove any components or structures to below three feet from final grade. Openings in pipes, manholes, and drop structures will be filled with grout to the extent practicable on an as needed basis. Removed items will be dispositioned off-site as solid waste. Process knowledge regarding the material of construction for each item will be confirmed by visual inspection. Radiological field screening of these waste items will also be performed to identify waste with levels of residual radioactive contamination that require disposal as radioactive waste and controlled for off-site disposal under DOE Directives and Policy. If process knowledge cannot be confirmed by visual inspection additional characterization will be performed to determine proper disposition. Waste will be staged in a manner to prevent run-on and runoff of precipitation and surface water pending off-site disposition.

Table 2. Items in or Adjacent to Each Dam Notch Area

Dam	Item/Feature	Detail
A-1	main outlet pipe	corrugated metal pipe (cmp): ~100ft, 48in dia., full of grout; concrete cutoff collars, std metal end section
	outlet/valve works	steel platform; misc. concrete; valve components
	transfer pipe from N. Walnut Cr. Bypass Pipeline to Pond A-1	cast iron pipe (cip): ~40ft, 10in dia.
	valve A1-5 casing (vertical riser pipe on transfer pipe)	cmp: ~10ft, 24in dia.
A-2	main outlet pipe	ductile iron pipe (dip): ~150ft, 10in dia., full of grout; concrete cutoff collars
	outlet/valve works	concrete thrust blocks, valve and lift pedestals; valve components
	service spillway pipe	cmp: ~125ft, 42in dia.; outfall: std metal end section
	service spillway inlet drop structure	trash rack; concrete box drop structure
B-1	piezometer TH046592	typical well components
	piezometer TH046792	typical well components
	low level outlet pipe	dip: ~100ft, 10in dia., full of grout; concrete cutoff collars
	low level outlet/valve works	valve components; riser casing
	strip drain pipe	abs plastic: ~50ft, 4in dia.
	main outlet pipe	cmp: ~100ft, 36in dia., full of grout, std metal end section; conc. drop structure: full of concrete;
B-2	low level outlet pipe	dip: ~100ft, 10in dia., full of grout; concrete cutoff collars

Dam	Item/Feature	Detail
	low level outlet/valve works	valve components; riser casing
	service spillway drop structure	concrete drop box; trash rack
	service spillway outlet pipe	cmp/hdpe: ~100ft, 36in dia.
	old WWTP diversion pipe valve	valve components; riser casing
	old WWTP pipeline manhole	typical concrete MH
B-3	piezometer TH046992	typical well components
	piezometer TH047092	typical well components
	service spillway/drop structure	metal railing; concrete drop box
	service spillway pipeline	cmp: ~90ft, 48in dia., standard metal end section
	strip drain pipe	abs plastic: ~20ft, 4in dia.
	low level standpipe	dip: ~5ft, 10in dia.
	low level outlet pipe	dip: ~30ft, 10in dia.
	low level outlet valve	valve components and riser
B-4	service spillway	concrete spillway, box culvert, and flip bucket
	old stairway footers	concrete blocks

2 - Provide information about any former IHSSs/PACs or other known soil or groundwater contamination in the vicinity (or state that there is no known contamination).

The ponds are associated with the following former IHSSs/PACs:

Pond A-1 – IHSS 142.1

Pond B-2 – IHSS 142.6

Pond A-2 – IHSS 142.2

Pond B-3 – IHSS 142.7

Pond B-1 – IHSS 142.5

Pond B-4 – IHSS 142.8

More detailed information on these PACs/IHSSs and the disposition of these areas can be found in the *RCRA Facility Investigation – Remedial Investigation/Corrective Measures Study – Feasibility Study Report for the Rocky Flats Environmental Technology Site(RI/FS) Appendix B - FY2005 FINAL Historical Release Report*.

A Rocky Flats Cleanup Agreement (RFCA) accelerated action resulted in removal of soil and sediment from ponds B-1, B-2, and B-3 in 2005. This accelerated action is documented in the May 2005 *Closeout Report for IHSS Group NE-1 (Ponds B-1, B-2 and B-3) (Closeout Report)*. Ponds A-1, A-2, and B-4 did not require any RFCA accelerated action for soil or sediment removal.

Confirmation results from the accelerated action associated with ponds B-1, B-2, and B-3 are contained in the Closeout Report. Note that the excavated areas were backfilled with clean soil and thus the confirmation sample locations are now well below the current sediment surface elevations. Excavation deeper than the backfill depth is not anticipated. Characterization results for the investigation of ponds A-1, A-2, and B-4 investigations are presented in the October 2005 *Data Summary Report for IHSS Group NE-1 (DSR)*.

Based on the information included in the *Closeout Report* and the *DSR* characterization information for the ponds in question, all surface and subsurface concentrations or activities were less than the RFCA wildlife refuge worker (WRW) soil action levels (ALs), except for one subsurface-sediment sample in pond B-4. This pond B-4 subsurface-sediment sample was 217.0 pCi/g at 3.0-3.9 feet below surface (WRW AL = 50 pCi/g).

The Ponds are located in the Upper Walnut Creek Exposure Unit, which is evaluated as part of the RI/FS *Appendix A, Comprehensive Risk Assessment*. The results of the CRA for this Exposure Unit are in Volume 7 of Appendix A. Benzo(a)pyrene was identified as the only contaminant of concern (COC) for surface soil/subsurface sediment in this exposure unit. No COCs were identified for subsurface soil. The calculated risk to the Wildlife Refuge Worker for the surface and subsurface exposure scenario for benzo(a)pyrene in the CRA is 1×10^{-6} .

Plutonium was not identified as a COC in the exposure unit because it was screened out in accordance with the CRA methodology, and thus does not pose a significant risk.

3 - Resurvey any new surface established in subsurface soil, unless sufficient existing data is available to characterize the surface (or state that the excavated soil will be replaced and the original contours restored).

When completed, the new surface elevations will be consistent with the final design drawings for the regrading work. Final elevations will be surveyed and the resulting data will be used to update the Central OU topography maps.

Close Out of Contact Record: This Contact Record will be closed out when the as-built drawings are completed for the construction work, the Central OU topography maps have been updated with the final elevations, and the two aforementioned monitoring locations are reestablished.

Resolution: Carl Spreng, CDPHE, approved the excavation work and impairment and replacement as necessary of the monitoring locations as described in this contact record.

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Distribution:

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Rocky Flats Contact Record File